REMARKS

The Office examined claims 1-26 and rejected claims 1-3, 18-222, and 25-26. Claims 4-17, 23 and 24 are objected to. This paper requests entry of an amendment removing reference labels from the claims, and correcting one obvious missing antecedent (by eliminating the reference to the missing antecedent), and also requests reconsideration of the rejected claims.

Changes to the claims

Applicant requests entry of the following changes, believed not to change the scope of the claims.

The claims are first changed to eliminate all reference labels. Per the MPEP at 608.01(m), "The use of reference characters is to be considered as having no effect on the scope of the claims."

The changes to claims 1 and 21 to correct a missing antecedent problem do so by eliminating from each the phrase "of the terminal." Thus, claims 1 and 21 are now corrected so as not to have a missing antecedent ("a terminal"), and so as to be consistent with the application at page 8, ll. 21-27.

Rejections under 35 USC §112, second paragraph

At section 3 of the Office action, claim 20, which is an apparatus claim that refers to a method claim, is rejected under 35 USC §112, second paragraph, as being indefinite because according to the Office action, "It is not clear as to its being "apparatus" claim or "method" claim." The Office then advises that "Its limitations should be recited distinctly." Applicant respectfully submits that it is clear that claim 20 is to an apparatus, and that the limitations of claim 20 are distinctly recited. Claim 20 is clearly to an apparatus, and as limitations

recites that the apparatus includes equipment comprising means for performing the method of claim 1. Claim 1 recites a method including at least two steps. Thus, claim 20 is to an apparatus including equipment comprising means for performing the two steps recited in claim 1.

Accordingly, applicant respectfully requests that the rejection of claim 20 under 35 USC §112, second paragraph, be reconsidered and withdrawn.

If the Examiner is of a mind to maintain the rejection of claim 20, however, applicant would be agreeable to incorporating directly into claim 20 the limitations from claim 1 (i.e. so as to recited means for performing the first step and means for performing the second step recited in claim 1), and so make claim 20 independent of claim 1.

Information Disclosure Statement

At section 4 of the Office action, the Examiner states that the IDS filed April 2, 2004, fails to comply with the requirement of providing a copy of each reference (or relevant portion of same) that is other than a US patent, because 3GPP TS 25.322 v5.6.0 (2003-09), noted in the IDS is "not available to examine."

Applicant notes that the first Office action indicated the Examiner had reviewed the subject reference, because the first Office action returned an initialed copy of the PTO1449 listing the reference and including with the IDS filed April 2, 2004. However, applicant herewith provides a copy of the subject reference. (Applicant downloads such 3GPP references from the internet, at the URL:

http://www.3gpp.org/ftp/Specs/archive/

in case the Examiner would like to review the reference electronically.)

Rejections under 35 USC §103

At section 3 of the final Office action, claims 1-3, 18-22 and 25-26 are again rejected under 35 USC §103 as being unpatentable over U.S. Pat. No. 6,816,471 to Ludwig *et al.* in view of U.S. Pat. No. 6,490,251 to Yin *et al.*

The independent claims are 1 and 21.

Claim 1 recites a method by which a radio access network (RAN) monitors wireless transmission of packets to a terminal, the method including a step of slow release in which an upper layer of a layered protocol, also including a radio layer beneath the upper layer, removes from a buffer maintained by the upper layer the oldest packet in the buffer when the buffer is full and a new packet arrives, and does so independently of whether the oldest packet has been acknowledged by the terminal (in a communication between the radio layer of the terminal and the radio layer of the RAN, resulting in the radio layer of the RAN providing an acknowledgment to the upper layer of the RAN); and a step of local acknowledgement in which the radio layer (of the RAN) sends a local acknowledgement to the upper layer (of the RAN) on the occurrence of a predetermined event, such as (per the application at page 9, 11. 3-6) when the radio link condition (as e.g. reflected through the error rate or the retransmission rate) degrades below a predetermined threshold (according to some metric such as error rate), or during a handover procedure.

Regarding the independent claims, as in the previous Office action, the final Office action cites col. 8, 11. 8-32 of Ludwig (*et al.*) as disclosing a step of local acknowledgement in which the radio layer sends a local acknowledgement to the upper layer on the occurrence of a predetermined event. The Office action asserts that: "The reference discloses link reset corresponds to

predetermined event and providing information to L3 layer corresponds to claimed step of sending local acknowledgement."

Applicant has argued that Ludwig discloses at the cited location only that the L2 layer must always keep track of which L3 data units are included in which L2 data units, and that there is no teaching of the L2 layer (asserted by the Office action to correspond to the recited radio layer) sending a local acknowledgement to the upper layer on the occurrence of a predetermined event.

In response, the Examiner asserts that col. 8, ll. 8-32 explicitly discloses "providing information to L3 layer," which "corresponds to claimed step of sending local acknowledgment."

The cited text is:

> In a general sense, any time during the protocol operation, the L2_ARQ entity must be able *to provide information about the contents of its send buffer in terms of the L3 data units*. This information can be the identities of the L3 data units in accordance with any suitable addressing scheme, or the L3 data units themselves, where these L3 data units are those for which the associated L2_ARQ data units have not been fully acknowledged by the peer entity.

> Now an example will be described, in which a link reset occurs, i.e. the resetting of the data unit numbering, without a handover. In other words, the sending and receiving peers remain the same, but the numbering of the I-mode data units is reset, e.g. due to a given error condition. In this case, the sending peer will simply renumber the L2_ARQ data units in its send buffer in such a way that the first L2_ARQ data unit of the new sequence is the first L2_ARQ data unit associated with the last L3 data unit that was not completely acknowledged. In other words, when considering the example shown in FIG. 5, if one assumes that L2#1 to L2#3 have been acknowledged, which means that L3#1 has been acknowledged, the new sequence will begin with L2#3 as its first data unit, because L3#2 was not fully acknowledged prior to the reset. In this way there is no possibility of data loss in the course of the reset. [Emphasis added.]

Applicant respectfully submits that while the cited text does indicate that "the L2_ARQ entity must be able to provide

information about the contents of its send buffer *in terms of the L3 data units*" [emphasis added], it nowhere indicates providing such information *to the L3 layer*. The Examiner might argue that where Ludwig states that "the L2_ARQ entity must be able to provide information … ," without indicating the intended recipient, that the intended recipient is the L3 layer, but applicant respectfully submits that such an interpretation is not possible: the point of performing the local acknowledgment recited in claim 1 is to have the upper layer--which the Examiner asserts corresponds to the L3 layer of Ludwig--remove packets from its send buffer. *But Ludwig discloses only a send buffer of the L2 layer*. See Fig. 2. Ludwig is simply not concerned with any kind of buffering at the L3 layer, and nowhere discusses management of such a buffer. The "providing" mentioned at col. 8, ll. 8-32, can only be supposed to mean either a providing to the peer L2 layer, which conceivably could make use of the indicated information (contents of the L2 send buffer in terms of the L3 data units), or simply a "being able to provide" (which is in fact was is indicated), as in "knowing," and as opposed to actually providing, so as to be able to manage the L2 send buffer per the teachings of Ludwig. There is therefore *no basis* for interpreting the cited text as teaching or suggesting *sending to the L3 layer* an acknowledgment. (Further, and according to the general principles of a layered protocol and as pointed out above, the L3 layer should not have to know the contents of the L2 send buffer, in terms of the L3 data units or in any other terms, and that is the information that is taught as "able to [be] provide[d]," according to the cited text.) So Ludwig cannot fairly be said to teach the limitation recited in claim 1, of a local acknowledgement, in which the radio layer sends a local acknowledgement to the upper layer on the occurrence of a

predetermined event. On this ground all by itself, the rejection of claim 1 ought to be withdrawn.

Now as in the previous Office action, the final Office action concedes that "Ludwig fails to disclose a step of slow release in which [the] upper layer removes from the buffer maintained by the upper layer the oldest packet in the buffer when the buffer is full and a new packet arrives, and does so independently of whether the oldest packet has been acknowledged by the radio layer of the terminal." Applicant has argued, among other things, that the combination is not proper because there is no motivation for altering the teachings of Gronemeyer according to the teachings of Yin. Applicant noted that the cited teachings of Yin are to an edge device 115 implementing a packet discard block 430--apparently in either an ATM layer of the protocol stack 230 (Fig. 2) or the IP over ATM layer of the protocol stack, but not made express (see col. 5, ll. 64-65; col. 6, ll. 23; col. 6, ll. 31-34; and col. 7, line 47)--and indeed the packet discard block does from time to time discard packets from a buffer it maintains. Applicant respectfully insists that the packet discard block 430, which per col. 6, ll. 23-24, couples ABR (available bit rate) (ATM) flow control with TCP sliding window flow control, is not in any way useful in the system disclosed by Gronemeyer, which is not concerned with heterogeneous systems, and so there is no motivation to alter the teachings of Gronemeyer per the teachings of Yin, as required by the MPEP at 706.03(j). The combination made in the Office action appears to require using the ATM layer or IP over ATM layer (whichever of these implements the packet discard block 430) in place of the L3 layer of Gronemeyer, and if such a change is made to the teachings of Gronemeyer, then assuming arguendo that the assertions by the Office as to L3 are true --that L3 receives a local acknowledgment as in claim 1--then the combination made in

the Office action can no longer be said to include the step of local acknowledgment.

Thus, even if it is fair to say that combine the teachings of Yin with those of Ludwig, the combined teachings do not include having an upper layer discard a packet when a buffer it maintains is full.

In view of the shortcomings of Ludwig in respect to the local acknowledgment, and of Yin and Ludwig in respect to the upper layer discarding a packet from a buffer it maintains, since such limitations are included in both of the (only) independent claims of the case, applicant respectfully requests that the rejections under 35 USC §103 be reconsidered and withdrawn.
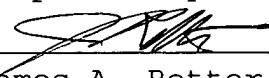
Conclusion

For all the foregoing reasons it is believed that all of the claims of the application are in condition for allowance and their passage to issue is earnestly solicited. Applicant's attorney urges the Examiner to call to discuss the present response if anything in the present response is unclear or unpersuasive.

Respectfully submitted,

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